



DIGISOL™

SWITCHING SOLUTIONS

DIGISOL 24 port Layer 2 Managed switch with 4 Gigabit Combo ports (RJ45/SFP)

DG-FS4528E

Key Features:-

- Software Features
- Security
- Rate Limiting
- IP Address Filtering
- RSPAN
- Connectivity Fault Management
- Ethernet Ring Protection Switching



Introduction:-

DIGISOL DG-FS4528E is a high-performance Fast Ethernet Layer 2/4 switch featuring 24 10/100BASE-TX ports and 4 combination Gigabit Ethernet RJ-45/SFP (Small Form Factor Pluggable) ports. DG-FS4528E provides a broad range of powerful features for Layer 2 switching, delivering reliability and consistent performance for your network traffic. It brings in order to poorly performing networks by segregating them into separate broadcast domains with IEEE 802.1Q compliant VLANs, and empowers multimedia applications with multicast switching and CoS services. The switch employs a wire-speed, non-blocking switching fabric. This permits simultaneous wire-speed transport of multiple packets at low latency on all ports.

Software Features

The switch provides a wide range of advanced performance enhancing features. Flow control eliminates the loss of packets due to bottlenecks caused by port saturation. Broadcast storm suppression prevents broadcast traffic storms from engulfing the network. Untagged (portbased), tagged, and protocol-based VLANs, plus support for automatic GVRP VLAN registration provide traffic security and efficient use of network bandwidth.

Security

This switch authenticates management access via the console port, Telnet, or a web browser. User names and passwords can be configured locally or can be verified via a remote authentication server (i.e., RADIUS or TACACS+). Port-based authentication is also supported via the IEEE 802.1X protocol. Port Security ensures access to switch ports based on MAC address, limits the total number of devices from using a switch port and protects against MAC flooding attacks. Other authentication options include HTTPS for secure management access via the web, SSH for secure management access over a Telnet-equivalent connection, SNMP Version 3, IP address filtering for SNMP/Telnet/web management access. Switch support DoS protection for

RATE LIMITING

This feature controls the maximum rate for traffic transmitted or received on an interface. Rate limiting is configured on interfaces at the edge of a network to limit traffic into or out of the network. Packets that exceed the acceptable amount of traffic are dropped.

IP ADDRESS FILTERING

Access to insecure ports can be controlled using DHCP Snooping which filters ingress traffic based on static IP addresses and addresses stored in the DHCP Snooping table. Traffic can also be restricted to specific source IP addresses or source IP/MAC address pairs based on static entries or entries stored in the DHCP Snooping table.

RSPAN

Remote Switched Port Analyzer (RSPAN) feature is used to mirror traffic from remote switches for analysis at a destination port on the local switch. This feature carries traffic generated on the specified source ports over a user-specified VLAN dedicated to that RSPAN session in all participating switches. Monitored traffic from one or more sources is copied onto the RSPAN VLAN through IEEE 802.1Q trunk or hybrid ports that carry it to any RSPAN destination port monitoring the RSPAN VLAN.

Connectivity Fault Management

The switch provides connectivity fault monitoring for end-to-end connections within a designated service area by using continuity check messages which can detect faults in maintenance points, fault verification through loop back messages, and fault isolation with link trace messages.

Ethernet ring Protection Switching

ERPS can also be used to increase the availability and robustness of Ethernet rings, such as those used in Metropolitan Area Networks (MAN). ERPS technology converges in a little over 50 ms. ERPS supports up to 255 nodes in the ring structure. And the convergence time is also independent of the number of nodes in the ring.



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Technical Specifications:-

Physical Port

- 10/100 Base T : 24
- Combo ports (RJ45/SFP) : 4
- 1000Base-FX : SFP Ports
- Console : RS 232

Performance

- Switching Capacity : 12.8Gbps
- Forwarding Rate : 9.5Mpps
- MAC Address Table : 16K
- Flash Memory : 32MB
- SDRAM for CPU : 64MB
- Packet Buffer : 8MB
- Vlan support : 4K
- Priority Queues : 4 hardware queues per port
- Jumbo Frame : 10240 bytes
- MSTP Instances : 4096

L2 Features

- Auto-negotiation for port speed and duplex mode Flow Control
- Spanning Tree Protocol
 - IEEE 802.1D Spanning Tree Protocol (STP)
 - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
 - IEEE802.1s Multiple Spanning Tree Protocol (MSTP)
 - Auto edge/STP fast forwarding
 - Root Guard
 - BPDU Guard
- VLANs
 - 802.1q support
 - IP subnet vlan
 - Port based vlan
 - MAC based vlan
 - Protocol VLAN
 - GVRP
 - QinQ
 - VLAN trunking
 - Traffic Segmentation
- Link Aggregation
 - Static Trunk
 - IEEE 802.3ad Link Aggregation Control Protocol
 - Trunk groups: 16, 2~8 ports per trunk
 - Traffic Chart
 - Green Ethernet
- Multicast
 - IGMP query
 - IGMP snooping v1/v2/v3
 - IGMP throttling/filtering
 - IGMP immediate leave
 - Multicast VLAN Registration (MVR)

- Mirroring
 - Port Mirror
 - VLAN Mirror
 - MAC Mirror
 - RSPAN
 - Ethernet Ring protection Switching
 - Connectivity Fault Management (CFM)
- Operation, administration and Maintenance (OAM)

QoS Features

- Traffic classification
 - Default Port priority
 - IEEE 802.1p CoS
 - IP Precedence
 - DSCP
- Enhanced QoS (Shaping/Marking)
- DiffServ
- Queue Mechanism
 - Supports WRR
 - Strict Priority
 - Strict+WRR
- Port based Rate Limiting with 64Kbps Granularity
- Flow based Rate Limit
- Voice vlan

Security Features

- Dos Protection
 - Echo/Chargen Attack
 - Smurf Attack
 - TCP Flooding Attack
 - TCP Null Scan
 - TCP SYN/FIN Scan
 - TCP Xmas Scan
 - UDP Flooding Attack
 - WinNuke Attack
- 802.1X Port Authentication
 - Single Host
 - Multi Host with max count of 1024
 - MAC based
 - VLAN assignment
 - EAPOL Pass Through
- Mac Authentication
 - Max. MAC count of 1024
 - Dynamic QoS
 - Dynamic Vlan
- Port Security
 - 1024 MAC addresses per port
 - Shutdown interface and send Trap messages on Security violation
 - Guest Vlan
 - Web Authentication
- Access Control Lists
 - 300 ACL rules

- IPv4 and IPv6 Standard and Extended
- ARP
- MAC
- Time
- AAA model
- Radius
- Tacacs+
- Local User Database
- Authentication Fall back support in case primary server is unavailable
- HTTP, SSL
- Storm Control
 - Unknown Unicast
 - Multicast
 - Multicast
 - Broadcast
 - DHCP snooping
 - ARP Inspection
 - IP Source Guard
 - SSH1.5/2.0
 - IP Filter for Web,SNMP,TELNET
 - Auto Traffic Control (ATC) for Broadcast and Multicast

IPv6 Features

- IPv4/6 Dual Protocol Stack
- ICMPv6, Traceroute6
- IPv6 Neighbor Discover, DHCP Snooping, IP Source Guard, MVR
- IPv6 HTTP, Telnet, SSH, Syslog
- MLD Snooping

Management Features

- CLI via console port, SSH, Telnet
- WEB management SNMP
- Version 1,2c,3
- Traps for Link UP/Down, Authentication, CFM crosscheck Firmware and Configuration
- Firmware upgrade via TFTP/FTP/HTTP
- Multiple configuration files
- Configuration file upload/ download via TFTP/FTP/HTTP
- Automatic Opcode Upgrade
- Login Banner
- SSH v2/HTTPS/SSL
- RMON (groups 1, 2, 3 and 9)
- BOOTP/DHCP client
- SNMP and NTP
- LLDP (802.1ab)
- Event/Error log/ System log
- Remote server logging
- SMTP
- CPU and Memory Monitoring with Rising and Falling Thresholds



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Technical Specifications:-

- Ports statistics and chart
- Scheduled Reload
- Cable Test
- Secondary IP address support
- IP Cluster with upto 36 switches per cluster
- Ping
- DNS

Mechanical

- Dimensions (W x D x H)cm
 - 44 x 17.1 x 4.3
- LED Indicators
 - "System: Power, DIAG (Diagnostic),

- Port: status (link, speed, and activity)"
- AC Power Input
 - 100 to 240 V, 50-60 Hz, 1A
- Weight
 - 2 Kg

Environmental

- Temperature
- Operating: 0°C to 55°C
- Storage: -20°C to 70°C
- Humidity Operating: 5% to 95% (non-condensing)

Electrical

- Power Consumption (Max.) 20Watts
- Max Currunt 1A @ 240VAC

Warranty

- DIGICARE Lifetime Warranty

Ordering Information:-

DG-FS4528E: DIGISOL 24 port 10/100Mbps Layer 2 switch with 4 Gigabit Combo ports supporting advanced feature set

*Lifetime Warranty shall be subject to terms and conditions specified in the DIGISOL PRODUCT WARRANTY displayed on the website of the company.

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